

IN THE CLAIMS

Please amend claims 1 and 9, cancel claims 3-4, 6, 11-12, and 14, and add new claims 31-40, as follows:

1. (Currently Amended) A magnetic head, comprising:
a magnetic yoke;
a write gap layer formed between upper and lower poles of the magnetic yoke;
a write coil having a plurality of coil layers; and
each coil layer extending continuously between the upper and the lower poles
through a plane defined by the write gap layer; and
each coil layer having a height between the upper and the lower poles that is 4 μ m
or greater.
2. (Previously Presented) The magnetic head of claim 1, wherein the write coil has an electrical resistance of less than 4 Ohms sufficient to reduce thermal protrusion at an air bearing surface (ABS) of the magnetic head.
3. (Canceled)
4. (Canceled)
5. (Original) The magnetic head of claim 1, wherein each coil separating layer is less than 0.4 μ m.
6. (Canceled)
7. (Previously Presented) The magnetic head of claim 1, further comprising:

a first pedestal formed below the upper pole;
a second pedestal formed above the lower pole; and
each coil layer further extending continuously to a fullest extent between the upper and the lower poles.

8. (Original) The magnetic head of claim 1, wherein each coil layer comprises copper and at least one of the upper and lower poles further comprises:

a pole piece layer over/under which the write coil is positioned;
a pedestal formed over/under the pole piece layer at an air bearing surface (ABS);
and

the pole piece layer comprising alternating layers of magnetic and non-magnetic dielectric material.

9. (Currently Amended) A magnetic recording device, comprising:

at least one rotatable magnetic disk;
a spindle supporting the at least one rotatable magnetic disk;
a disk drive motor for rotating the at least one rotatable magnetic disk;
a magnetic head for writing data from the at least one rotatable magnetic disk;
a slider for supporting the magnetic head;
the magnetic head including:
a magnetic yoke;
a write gap layer formed between upper and lower poles of the magnetic yoke;
a write coil having a plurality of coil layers; and
each coil layer extending continuously between the upper and the lower poles through a plane defined by the write gap layer; and
each coil layer having a height between the upper and the lower poles that is 4 μ m or greater.

10. (Previously Presented) The magnetic recording device of claim 9, wherein the write coil has an electrical resistance of less than 4 Ohms sufficient to reduce thermal protrusion at an air bearing surface (ABS) of the magnetic head.

11. (Canceled)

12. (Canceled)

13. (Original) The magnetic recording device of claim 9, wherein each coil separating layer is less than 0.4 μm .

14. (Canceled)

15. (Previously Presented) The magnetic recording device of claim 9, further comprising:

a first pedestal formed below the upper pole;

a second pedestal formed above the lower pole;

each coil layer further extending continuously to a fullest extent between the upper and the lower poles.

16. (Original) The magnetic recording device of claim 9, wherein at least one of the upper and lower poles further comprises:

a pole piece layer over/under which the write coil is positioned;

a pedestal formed over/under the pole piece layer at an air bearing surface (ABS);

and

the pole piece layer comprising alternating layers of magnetic and non-magnetic dielectric material.

17. (Previously Presented) A magnetic head, comprising:
a magnetic yoke;
a write gap layer formed between upper and lower poles of the magnetic yoke;
a write coil having a plurality of coil layers;
each coil layer extending continuously between the write gap layer and one of the lower pole and the upper pole of the magnetic yoke; and
the write coil having an electrical resistance of 4 Ohms or less.

18. (Previously Presented) The magnetic head of claim 17, further comprising:
each coil layer extending continuously between the write gap layer and the lower pole of the magnetic yoke.

19. (Previously Presented) The magnetic head of claim 17, wherein the electrical resistance is sufficient to reduce thermal protrusion at an air bearing surface (ABS) of the magnetic head.

20. (Previously Presented) The magnetic head of claim 17, wherein the electrical resistance is less than 0.5 Ohms per coil turn.

21. (Original) The magnetic head of claim 17, wherein each coil layer has a height between the upper and the lower poles that is 4 μm or greater.

22. (Original) The magnetic head of claim 17, wherein each coil separating layer is less than 0.4 μm .

23. (Canceled)

24. (Original) The magnetic head of claim 17, wherein the one of the lower pole and the upper pole further comprises:

a pole piece layer under which the write coil is positioned; and
a pedestal formed under the pole piece layer at an air bearing surface (ABS).

25. (Original) The magnetic head of claim 17, wherein at least one of the upper and lower poles further comprises:

a pole piece layer over/under which the write coil is positioned; and
the pole piece layer comprising alternating layers of magnetic and non-magnetic dielectric material.

26. (Previously Presented) A magnetic recording device, comprising:

at least one rotatable magnetic disk;
a spindle supporting the at least one rotatable magnetic disk;
a disk drive motor for rotating the at least one rotatable magnetic disk;
a magnetic head for writing data from the at least one rotatable magnetic disk;
a slider for supporting the magnetic head;
the magnetic head including:
a magnetic yoke;
a write gap layer formed between upper and lower poles of the magnetic yoke;
a write coil having a plurality of coil layers;
each coil layer extending continuously between the write gap layer and one of the lower pole and the upper pole of the magnetic yoke; and
the write coil having an electrical resistance of 4 Ohms or less.

27. (Original) The magnetic recording device of claim 26, wherein the write coil has an electrical resistance sufficient to reduce thermal protrusion at an air bearing surface (ABS) of the magnetic head.

28. (Previously Presented) The magnetic recording device of claim 26, further comprising:

each coil layer further extending continuously to a fullest extent between the upper and the lower poles.

29. (Previously Presented) The magnetic recording device of claim 26, wherein the electrical resistance is less than 0.5 Ohms per coil turn.

30. (Original) The magnetic recording device of claim 26, wherein each coil separating layer is less than 0.4 μm .

31. (New) A magnetic head, comprising:
a magnetic yoke;
a write gap layer formed between upper and lower poles of the magnetic yoke;
a write coil having a plurality of coil layers;
each coil layer extending continuously between the upper and the lower poles through a plane defined by the write gap layer; and
each coil separating layer of the write coil being less than 0.4 μm .

32. (New) The magnetic head of claim 31, wherein the write coil has an electrical resistance of less than 4 Ohms sufficient to reduce thermal protrusion at an air bearing surface (ABS) of the magnetic head.

33. (New) The magnetic head of claim 31, wherein each coil layer has a height between the upper and the lower poles that is 4 μm or greater.

34. (New) The magnetic head of claim 31, further comprising:
a first pedestal formed below the upper pole;

a second pedestal formed above the lower pole; and
each coil layer further extending continuously to a fullest extent between the upper and the lower poles.

35. (New) The magnetic head of claim 31, wherein each coil layer comprises copper and at least one of the upper and lower poles further comprises:

a pole piece layer over/under which the write coil is positioned;
a pedestal formed over/under the pole piece layer at an air bearing surface (ABS);
and

the pole piece layer comprising alternating layers of magnetic and non-magnetic dielectric material.

36. (New) A magnetic recording device, comprising:

at least one rotatable magnetic disk;
a spindle supporting the at least one rotatable magnetic disk;
a disk drive motor for rotating the at least one rotatable magnetic disk;
a magnetic head for writing data from the at least one rotatable magnetic disk;
a slider for supporting the magnetic head;
the magnetic head including:
a magnetic yoke;
a write gap layer formed between upper and lower poles of the magnetic yoke;
a write coil having a plurality of coil layers;
each coil layer extending continuously between the upper and the lower poles through a plane defined by the write gap layer; and
each coil separating layer of the write coil being less than 0.4 μ m.

37. (New) The magnetic recording device of claim 36, wherein the write coil has an electrical resistance of less than 4 Ohms sufficient to reduce thermal protrusion at an air bearing surface (ABS) of the magnetic head.

38. (New) The magnetic recording device of claim 36, wherein each coil layer has a height between the upper and the lower poles that is 4 μm or greater.

39. (New) The magnetic recording device of claim 36, further comprising:
a first pedestal formed below the upper pole;
a second pedestal formed above the lower pole;
each coil layer further extending continuously to a fullest extent between the upper and the lower poles.

40. (New) The magnetic recording device of claim 36, wherein at least one of the upper and lower poles further comprises:

a pole piece layer over/under which the write coil is positioned;
a pedestal formed over/under the pole piece layer at an air bearing surface (ABS);
and
the pole piece layer comprising alternating layers of magnetic and non-magnetic dielectric material.